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EXAMINER

NGUYEN, HAI V

ART UNIT

PAPER NUMBER

2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,715

Applicant(s)

LEE ET AL.

Examiner

Hai V. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/15/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/27/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the application filed on 15 February 2005.
2. Claims 1-21 are presented for examination.

Specification

3. The textual portion of the specification is replete with grammatical and idiomatic errors too numerous to mention specifically. The specification should be revised carefully.
4. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks TM, and other legal symbols [®], where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor. The following are just some examples:
5. The abstract of the disclosure is objected to because the typing error regarding to the abbreviation of "UTARN". Correction is required. See MPEP § 608.

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6. Claim 4 is objected to because of the following informalities: the typing error regarding to the abbreviation of "UTRANUTRAN". Appropriate correction is required.

7. Claim 8 is objected to because of the following informalities: the typing errors regarding to the elements of "the limitations of "(3) ... , wherein a initial value of the counter is equal to the required times of sending the message, ..., (4) ...according to all the messages ..., and if the actual transmission rate..., on CTCH exceeds the requirement of message transmission, and are wasted;...(5)...informs BMC of the new configuration parameters of CTCH with a primitive, and only if the actual transmission rate ...(9)..., then BMC return the confirmation information...for this times is completed;...(10)... according to the time interval that MBMS service announcement message is required to send, and when the time expires for sending s next MBMS service announcement message, proceeding to step (6)." and in the specification in paragraphs ([0037]-[0042]; [0082]-[0087]).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 5, 6, 8, 9, 10, 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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10. Claim 1 recites the limitations of "... (c) ... according to the requirement of Cell Broadcast Center (CBC) ...". There is insufficient antecedent basis for this limitation in the claim.

11. Claims 5, 6 recite the limitations of "wherein in the step (b), according to the requirement of BM_SC, ...", "...according to the requirement of CBC,..." respectively. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 8 recites the limitations of "(3) ... , wherein a initial value of the counter is equal to the required times of sending the message, ..., (4) ...according to all the messages ..., and if the actual transmission rate..., on CTCH exceeds the requirement of message transmission, and are wasted;...(5)...informs BMC of the new configuration parameters of CTCH with a primitive, and only if the actual transmission rate ...(9)..., then BMC return the confirmation information...for this times is completed;...(10)... according to the time interval that MBMS service announcement message is required to send, and when the time expires for sending s next MBMS service announcement message, proceeding to step (6).".

13. Claim 9 recites the limitations of "step 5 of according the requirement of BMC, RRC..", "step 6 of after processing the data frame received from the CTCH accordingly, L1 and L2 submit the data frame to BMC...", step 9 of otherwise, BMC finds the position of the next schedule message...", step 12 of BMC finds the position of the MBMS service announcement message..." in claim 9. There is insufficient antecedent basis for this limitation in the claim.

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14. Claim 10 recites the limitations of "step (f) of after receiving from SGSN, UTRAN arranges time for sending the MBMS service notification message" in claim 10. There is insufficient antecedent basis for this limitation in the claim.

15. Claims 18-21 recite the limitations of "sending a service announcement message includes the parameters..." in claim 18, "receiving service announcement information for the parameters..." in claim 19, "UE receives service announcement information for the parameters..." in claim 21 and "UTRAN and the apparatuses in core network.....", "UTRAN and other apparatuses" in claim 20; "for the arrival of the MBMS data" in claims 18-21. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by **Sarkkinen et al. US patent #: 6,684,081 B2.**

18. As to claim 1, Sarkkinen discloses a method for transferring a service announcement of Multimedia Broadcast/Multicast Service (MBMS) comprises the following steps:

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- (a) Broadcast/Multicast Service Center (BM_SC) (*Figs. 1, 3, 5, element 111*) requests Cell Broadcast Center (CBC) (*Figs. 1, 3, 5, element 108 is source of multicast service transmissions or broadcast service transmissions*) to send a service announcement message, wherein said request may include sending times and sending time duration as parameters (*Figs. 1, 3, 5, control information message, col. 4, lines 49-55*);
- (b) After receiving a message from the BM_SC, the Cell Broadcast Center (CBC) commands UMTS Terrestrial Radio Access Network (UTRAN) connected with it by a message to send the service announcement (*Figs. 1, 3, 5, generation of MBMC scheduling messages BMSC is responsible for knowing how many MBMC sessions are currently going on at the UTRAN side, col. 8, lines 15-25; col. 4, lines 49-55, the control information may command the mobile to periodically repeat an announcement of multicast or broadcast services*);
- (c) UMTS Terrestrial Radio Access Network (UTRAN) arranges the time for sending the Multimedia Broadcast/Multicast Service (MBMS) service announcement message at one or more schedule periods according to the requirement of Cell Broadcast Center (CBC), adds a brief description information (*a scheduling parameter, col. 7, lines 45-50*) to a schedule message that describes each of the schedule periods and sends the schedule message (*Figs. 1, 3, 5, col. 4, lines 49-55; col. 7, lines 38-51, based on the scheduling information, the MBMC generates at the UTRAN side schedule messages and schedules MBMC message sequences accordingly*);
- (d) UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia

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Broadcast/Multicast Service (MBMS) service announcement message (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 9, lines 15-23; col. 10, lines 10-15, generating acknowledgements for transmission to the service provider of multicast or broadcast services*).

19. As to claim 2, Sarkkinen discloses, wherein transfer times in the step (a) can be a plurality times (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 59-64*).

20. As to claim 3, Sarkkinen discloses, wherein after finishing sending the Multimedia Broadcast/Multicast Service (MBMS) service announcement message, UMTS Terrestrial Radio Access Network (UTRAN) sends confirmation information to Cell Broadcast Center (CBC) (*col. 10, lines 10-16*).

21. As to claim 4, Sarkkinen discloses, wherein after receiving the confirmation information from UTRAN, Cell Broadcast Center (CBC) returns confirmation information to Broadcast/Multicast Service Center (BM_SC) subsequently (*col. 10, lines 10-16*).

22. As to claim 5, Sarkkinen discloses, wherein in the step (b), according to the requirement of Broadcast/Multicast Service Center (BM_SC), Cell Broadcast Center (CBC) can require UMTS Terrestrial Radio Access Network (UTRAN) to send the service announcement periodically a plurality of times (*Figs. 1, 3, 5, col. 4, lines 50-55*).

23. As to claim 6, Sarkkinen discloses, wherein in the step (d), UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia Broadcast/Multicast Service (MBMS) service announcement message a plurality of times according to the requirement of Cell Broadcast Center (CBC), and the

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step (c) and the step (d) can be repeated a plurality of times without a certain precedence order (*Figs. 1, 3, 5, col. 2, lines 55-67; col. 4, lines 50-55; col. 8, line 59-col. 9, line 14*).

24. As to claim 7, Sarkkinen discloses, wherein the service announcement message includes parameters of service types (*service modes, e.g., multicast or broadcast*) and service areas of Multimedia Broadcast/Multicast Service (MBMS) (*Figs. 2, 4, element 160; Fig. 6, element 320, scheduling parameters, col. 7, lines 45-51*).

25. As to claim 8, Sarkkinen discloses, wherein the step of UMTS Terrestrial Radio Access Network (UTRAN) sending a service announcement message that includes the service types and service areas of Multimedia Broadcast/Multicast Service (MBMS) via Cell Broadcast further comprises the following steps:

(1) Multimedia Broadcast/Multicast Service (MBMS) Control Module (MBMSC) receives a signaling message (*Fig. 1, an lu signaling connection, col. 7, lines 20-27*) from core network nodes (SGSN, CBC) (*Fig. 1, element 108*), which informs UMTS Terrestrial Radio Access Network (UTRAN) to send the Multimedia Broadcast/Multicast Service (MBMS) service announcement message (*Fig. 1, col. 7, lines 20-60*);

(2) Multimedia Broadcast/Multicast Service Control Module (MBMSC) requests Broadcast/Multicast Control protocol (BMC) (*Fig. 1, MBMC protocol, col. 7, lines 38-60*) to send the Multimedia Broadcast/Multicast Service (MBMS) service announcement message (*Figs. 1, 3, 5, generating scheduling messages to transmit MBMC service modes, col. 7, lines 20-60; col. 8, lines 8-49*);

(3) BMC constructs the Multimedia Broadcast/Multicast Service (MBMS) service announcement message and saves it in a sending memory block thereof, and starts up a counter for this message, wherein a initial value of the counter is equal to the required times of sending the message, and if the message is required to be sent infinite times, the initial value of the counter is assigned with zero or negative value (*Fig. 1, col. 4, lines 50-55; col. 8, lines 50-58*);

(4) BMC estimates a transmission rate (V_{need}) (*the required transmission rate, col. 8, lines 65-67*) needed on CTCH (*Figs. 1, 3, 5, transport layer 148-150*) according to all the messages currently saved in the sending memory block, wherein all the messages include the Multimedia Broadcast/Multicast Service (MBMS) service announcement messages and other broadcast messages, and if the actual transmission rate (V_{ctch}) on the CTCH is 0, it means that this cell hasn't allocated CTCH resources and it won't continue to send broadcast message, and if the actual transmission rate is much smaller or larger than that needed on the CTCH, BMC reports the actual required transmission rate to RRC with a primitive and requests RRC to establish or adjust CTCH resources, and during the period of BMC waiting for RRC configuring CTCH resources, if the actual transmission rate does not match with that needed but it isn't equal to zero: when the actual transmission rate is smaller than that needed, BMC may still select some messages, with high priority and short length to transfer; when the actual transmission rate is much larger than that needed, BMC also reports to RRC, but at this time, resources on CTCH exceeds the requirement of message transmission, and are wasted (*Fig. 1, col. 4, lines 50-55; col. 8, line 12-col. 9, line*

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23);

(5) RRC (*Figs. 1, 3, 5, element 116, 160*) controls L1 and L2 (*Figs. 1, 3, 5, L1=layer MAC, L2= layer RLC*) with a primitive to establish CTCH (*Figs. 2, 4, 6, element 181 transport block*) or adjust CTCH configuration so as to make CTCH transmission rate match, and informs BMC of the new configuration parameters of CTCH with a primitive, and only if the actual transmission rate is not equal to zero, BMC will still continue to send broadcast messages as described in step (4) (*Figs. 1, 3, 5, element 116, 160, col. 10, lines 17-60*);

(6) BMC adds descriptions for the Multimedia Broadcast/Multicast Service (MBMS) service announcement message to a pending-for-sending schedule message, and then arranges the Multimedia Broadcast/Multicast Service (MBMS) service announcement message on a specific position of the schedule period following the schedule message for future sending (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 12-55; col. 9, lines 15-23, prioritizing the service modes*);

(7) BMC sends the schedule message (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

(8) BMC sends the Multimedia Broadcast/Multicast Service (MBMS) service announcement message at the prescribed time (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

(9) After reducing the counter's value by 1, BMC judges if the value of the counter is negative, it means that the Multimedia Broadcast/Multicast Service (MBMS) service announcement message is required to send for infinite times, then proceeding to step (10) after adding 1 to the value of the counter; if the

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value of the counter is positive, proceeding to step (10) directly; if the value is zero, it means that the times of sending the Multimedia Broadcast/Multicast Service (MBMS) service announcement message has met the requirement, then BMC return the confirmation information to Multimedia Broadcast/Multicast Service Control Module (MBMSC) and the process of sending the Multimedia Broadcast/Multicast Service (MBMS) service announcement forth this times is completed (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

(10) BMC waits on-timing according to the time interval that Multimedia Broadcast/Multicast Service (MBMS) service announcement message is required to send, and when the time expires for sending a next Multimedia Broadcast Multicast Service (MBMS) service announcement message, proceeding to step (6) (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*).

26. As to claim 9, Sarkkinen discloses, wherein the step of UE (*Figs. 1, 3, 5, element mobile 104*) receiving the service announcement message for the parameters of the Service types and service areas of Multimedia Broadcast/Multicast Service (MBMS) via cell broadcast (*Figs. 1, 3, 5, element core network 108*) further comprises the following steps:

(1) Multimedia Broadcast/Multicast Service (MBMS) Service Control Module (MBMSC) sends a request for receiving a Multimedia Broadcast/Multicast Service (MBMS) service announcement message to BMC with a first primitive (*Figs. 2,4, element 192*);

(2) If BMC has never received any broadcast message before, proceeding to

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step (3); otherwise, proceeding to step 9);

(3) BMC informs RRC to receive a broadcast message with a second primitive (*Figs. 2, 4, element 172*), which includes the parameters that can inform RRC to receive BMC preferred message at the prescribed time and to skip some messages;

(4) If RRC has not configured CTCH before, RRC configures link layer (L2) and physical layer (L1) to enable UE to receive information on CTCH and feedbacks necessary CTCH configuration information with a third primitive (*Figs. 2, 4, element 176*) to BMC at the same time, thereafter proceeding to step (5); if RRC has configured CTCH resources before, proceeding to step (5) directly;

(5) According to the requirement of BMC, RRC controls L2 and L1 with a fourth primitive (*Figs. 2, 4, element 171*) to receive cell broadcast information on CTCH at the prescribed time;

(6) After processing the data frame received from the CTCH accordingly, L1 and L2 submit the data frame to BMC in the format of BMC message with a fifth primitive (*Fig. 5, element of "control data is indicated in a MBMC PDU" between RLC layer 202 and MBMC layer 114*);

(7) BMC analyses the received message, and if it is a Multimedia Broadcast/Multicast Service (MBMS) service announcement message, BMC forwards it to Multimedia Broadcast/Multicast Service Control Module (MBMSC) with a sixth primitive (*Figs. 2, 4, element 171*), and at the same time, reception of this time is completed (*col. 10, lines 10-16*); if it is not a Multimedia Broadcast/Multicast Service (MBMS) service announcement message,

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proceeding to step (8);

(8) If the message received by BMC is a schedule message (*col. 7, lines 39-60; col. 8, lines 12-32*), proceeding to step (9); otherwise, proceeding to step (3);

(9) BMC analyses the schedule message received most recently, and checks if the schedule period described by the schedule message includes the Multimedia Broadcast/Multicast Service (MBMS) service announcement message, if so, proceeding to step (12) (*col. 7, line 38-col. 8, line 32*); otherwise, BMC finds the position of the next schedule message and requests RRC to receive the next schedule message with the second primitive (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(10) RRC controls L1 and L2 with the fourth primitive to receive the next schedule message at the prescribed time (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(11) After processing the message received from CTCH accordingly, L1 and L2 forward the schedule message to BMC with the fifth primitive, and then proceeding to step (9) (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(12) BMC finds the position of the Multimedia Broadcast/Multicast Service (MBMS) service announcement message and requests RRC with the second primitive to receive the Multimedia Broadcast/Multicast Service (MBMS) service announcement message at prescribed time (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(13) RRC controls L1 and L2 with the fourth primitive to receive Multimedia Broadcast/Multicast Service (MBMS) service announcement message at the

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prescribed time (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(14) After processing the message received from CTCH accordingly, L1 and L2 forward the Multimedia Broadcast/Multicast Service (MBMS) service announcement message to BMC with the fifth primitive (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*);

(15) BMC forwards the Multimedia Broadcast/Multicast Service (MBMS) service announcement message to Multimedia Broadcast/Multicast Service (MBMS) Control Module (MBMSC) with the third primitive and the reception for this time is completed (*col. 7, line 38-col. 8, line 32; col. 9, lines 15-23*).

27. As to claim 10, Sarkkinen discloses a method for transferring a service notification (*a MBMC message, col. 7, lines 39-60*) of Multimedia Broadcast/Multicast Service (MBMS) comprises the following steps:

(a) BM_SC sends Multimedia Broadcast/Multicast Service (MBMS) data to GGSN (*Fig. 5, element 111, BMSC sending MBMC message to the core network 108 to the radio network controller 106, col. 7, lines 28-51*);

(b) After receiving the data sent by BM_SC (*Fig. 5, element 111, BMSC*), GGSN sends the data to SGSN (*Fig. 5, element 111, BMSC sending data to the core network 108 including GGSN and SGSN, col. 7, lines 7-51*);

(c) After receiving the signals from GGSN, SGSN informs UMTS Terrestrial Radio Access Network (UTRAN) of the forthcoming of the Multimedia Broadcast/Multicast service (MBMS) data via a signaling message (*Fig. 5, element 111, the core network 108 informing the UTRAN via lu signaling, col. 7, lines 7-51*);

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- (d) Radio data Access Bearer (RAB) (*the control information*) is established between UMTS Terrestrial Radio Access Network (UTRAN) and SGSN (*Fig. 5, element 110 originating the control information, col. 7, lines 7-51*);
- (e) SGSN sends the Multimedia Broadcast/Multicast Service (MBMS) data to UMTS Terrestrial Radio Access Network (UTRAN) via radio data access bearer (RAB) (*Fig. 5, element 110 originating the control information, col. 7, lines 7-51*);
- (f) After receiving the data from SGSN, UMTS Terrestrial Radio Access Network (UTRAN) arranges time for sending the Multimedia Broadcast/Multicast Service.(MBMS) service notification message (*Fig. 5, element 110 originating the control information, col. 7, lines 7-51*);
- (g) UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia Broadcast/Multicast Service (MBMS) service notification message at a prescribed time (*Fig. 5, col. 7, lines 7-51; col. 9, lines 15-23*);
- (h) UE requests UTRAN to allocate radio resources (RB) via a signaling message, and a plurality of other UEs can send requests to UMTS Terrestrial Radio Access Network (UTRAN) (*Fig. 5, col. 7, lines 7-51; col. 9, lines 15-23*);
- (i) UMTS Terrestrial Radio Access Network (UTRAN) allocates radio bearer (RB) according to the number of UEs (*Fig. 5, col. 7, lines 7-51; col. 9, lines 15-23*);
- (j) UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia Broadcast/Multicast Service (MBMS) data to UE via RB (*Fig. 5, col. 7, lines 7-51; col. 9, lines 15-23*).

28. As to claim 11, Sarkkinen discloses, wherein the step (e), step (f) and step (g) can be performed without a certain precedence order (*Fig. 5, col. 7, lines 7-51; col. 9, lines 15-23*).

29. As to claim 12, Sarkkinen discloses wherein the service notification message indicates the forthcoming of specific Multimedia Broadcast/Multicast Service (MBMS) data and includes relevant parameters related to the MBMS (*Figs. 2, 4, 6*).

30. As to claim 13, Sarkkinen discloses, wherein the step of UMTS Terrestrial Radio Access Network (UTRAN) sending a service announcement message that includes the service types and service areas of Multimedia Broadcast/Multicast Service (MBMS) via Cell Broadcast further comprises the following steps:

(1) Multimedia Broadcast/Multicast Service (MBMS) Control Module (MBMSC) receives a signaling message (*Fig. 1, an lu signaling connection, col. 7, lines 20-27*) from core network nodes (SGSN, CBC) (*Fig. 1, element 108*), which informs UMTS Terrestrial Radio Access Network (UTRAN) to perform the process of Multimedia Broadcast/Multicast Service (MBMS) service notification message (*Fig. 1, col. 7, lines 20-60*);

(2) Multimedia Broadcast/Multicast Service Control Module (MBMSC) requests Broadcast/Multicast Control protocol (BMC) (*Fig. 1, MBMC protocol, col. 7, lines 38-60*) to send the Multimedia Broadcast/Multicast Service (MBMS) service notification message (*Figs. 2, 4, 6, generating scheduling messages to transmit MBMC service modes, col. 7, lines 20-60; col. 8, lines 8-49*);

(3) BMC constructs the Multimedia Broadcast/Multicast Service (MBMS) service

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notification message and saves it in a sending memory block thereof (*Fig. 1, col. 4, lines 50-55; col. 8, lines 50-58*);

(4) BMC estimates a transmission rate (V_{need}) (*the required transmission rate, col. 8, lines 65-67*) needed on CTCH (*Figs. 1, 3, 5, transport layer 148-150; Figs. 2, 4, 6, transport block channel*) according to all the messages currently saved in the sending memory block, wherein all the messages include the Multimedia Broadcast/Multicast Service (MBMS) service notification messages (*Fig. 1, col. 4, lines 50-55; col. 8, line 12-col. 9, line 23*);

(5) RRC (*Figs. 1, 3, 5, element 116, 160*) controls L1 and L2 (*Figs. 1, 3, 5, L1=layer MAC; L2= layer RLC*) with a primitive to establish CTCH (*Figs. 2, 4, 6, element 181 transport block*) or adjust CTCH configuration so as to make CTCH transmission rate match, and informs BMC of the new configuration parameters of CTCH (*Figs. 1, 3, 5, element 116, 160, col. 10, lines 17-60*);

(6) BMC adds descriptions for the Multimedia Broadcast/Multicast Service (MBMS) service notification message to a pending-for-sending schedule message, and then arranges the Multimedia Broadcast/Multicast Service (MBMS) service notification message on a specific position of the schedule period following the schedule message for future sending (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

(7) BMC sends the schedule message (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

(8) BMC sends the Multimedia Broadcast/Multicast Service (MBMS) service

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notification message at the prescribed time (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*);

31. Claim 14 has similar limitations of claim 9; therefore, it is rejected under the same rationale as in claim 9 above.

32. Claim 15 has similar limitations of claim 10; therefore, it is rejected under the same rationale as in claim 10 above.

33. As to claim 16, Sarkkinen discloses, wherein that the step of UMTS Terrestrial Radio Access Network (UTRAN) sending the Multimedia Broadcast/Multicast Service (MBMS) service notification via cell broadcast further comprises the following steps:

(1) Multimedia Broadcast/Multicast Service Control Module (MBMSC) receives a signaling message (*Fig. 1, an lu signaling connection, col. 7, lines 20-27*) sent from the core network nodes (SGSN, CBC) (*Fig. 1, element 108*), which informs UMTS Terrestrial Radio Access Network (UTRAN) to send a service announcement message or service notification message of Multimedia Broadcast/Multicast Service (MBMS) (*Fig. 1, MBMC scheduling messages, col. 7, lines 20-60*);

(2) Multimedia Broadcast/Multicast Service Control Module (MBMSC) requests Broadcast/Multicast Control protocol (BMC) (*Fig. 1, MBMC protocol, col. 7, lines 38-60*) with a primitive (*Figs. 2, 4, element 192*) to send the service announcement message or service notification message of Multimedia Broadcast/Multicast Service (MBMS) (*Figs. 2, 4, 6, generating scheduling messages to transmit MBMC service modes, col. 7, lines 20-60; col. 8, lines 8-*

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49);

(3) BMC constructs the service announcement message or service notification message of Multimedia Broadcast/Multicast Service (MBMS) (*Figs. 1, col. 4, lines 50-55; col. 8, lines 50-58*);

(4) BMC estimates the transmission rate (V_{need}) (*the required transmission rate, col. 8, lines 65-67*) needed on the CTCH (*Figs. 1, 3, 5, transport layer or channel 148-150; Figs. 2, 4, 6, transport block channel 181*);

(5) RRC (*Figs. 1, 3, 5, element 116, 160*) controls L1 and L2 (*Figs. 1, 3, 5, L1=layer MAC, L2= layer RLC*) with a primitive to establish CTCH (*Figs. 2, 4, 6, element 181 transport block*) or adjust CTCH configuration so as to make CTCH transmission rate match (*Figs. 1, 3, 5, element 116, 160, col. 10, lines 17-60*)

(6) BMC adds descriptions for the service announcement service or service notification message of MBMS to a pending-for-sending schedule message (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*); and

(7) BMC sends the schedule message (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*); and

(8) BMC sends the service announcement message or service notification message of multimedia Broadcast/Multicast Service (MBMS) at the prescribed time (*Figs. 1, 3, 5, col. 4, lines 50-55; col. 8, lines 49-55; col. 9, lines 15-23*).

34. Claim 17 has similar limitations of claim 14; therefore, it is rejected under the same rationale as in claim 14 above.

35. As to claim 18, Sarkkinen discloses a method of sending Multimedia Broadcast/Multicast Service (MBMS) service data (*Figs. 1, 3, 5, Abstract, control*

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information and user data) in a communication system comprises the following steps:

sending a service announcement message (*a control information message or scheduling message*) that includes the parameters (*Figs. 2, 4, 6, headers with control codes or scheduling parameters*) of the service types (*service modes*) and service areas of Multimedia Broadcast/Multicast Service (MBMS) via cell broadcast (*Figs. 1, 3, 5, the core network 108*);

establishing a transmission bearer (*Figs. 1, 3, 5, a MBMC session, col. 8, lines 12-49*) for the Multimedia Broadcast/Multicast Service (MBMS) multicast service;

sending a service notification information (*a scheduling decision*) for the arrival of the Multimedia Broadcast/Multicast Service (MBMS) data via cell broadcast (*Figs. 1, 3, 5, col. 8, lines 25-30*);

sending the Multimedia Broadcast/Multicast Service (MBMS) multicast service data (*Figs. 1, 3, 5, col. 7, line 7 – col. 8, line 49, sending MBMC data frame according to service priority*); and

releasing the transmission bearer after the Multimedia Broadcast/Multicast Service (MBMS) service (*Figs. 1, 3, 5, col. 7, line 7 – col. 8, line 58, after the scheduling of MBMC session is done, the resources, e.g., video or news, are released for showing*).

36. As to claim 19, Sarkkinen discloses a method of receiving Multimedia Broadcast/Multicast Service (MBMS) multicast service data (*user or subscriber receiving MBMS service data*) in a communication system comprises the following steps:

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receiving service announcement information (*a control information*) for the parameters of the service types and service areas of Multimedia Broadcast/Multicast Service (MBMS) via cell broadcast (*Figs. 1, 3, 5, col. 7, lines 39-51*);

joining a specific Multimedia Broadcast/Multicast Service (MBMS) multicast service (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51*);

receiving service notification information (*a scheduling decision or message*) for the arrival of Multimedia Broadcast/Multicast Service (MBMS) via a MBMS channel (*Figs. 1, 3, 5, col. 8, lines 25-49*);

receiving the Multimedia Broadcast/Multicast Service (MBMS) multicast service data (*Figs. 1, 3, 5, col. 8, lines 25-49*); and

releasing the MBMS channel for leaving the specific Multimedia Broadcast/Multicast Service (MBMS) multicast service (*Figs. 1, 3, 5, col. 7, line 52-col. 8, line 49*).

37. As to claim 20, Sarkkinen discloses a method of sending Multimedia Broadcast/Multicast Service (MBMS) broadcast service data in a communication system comprises the following steps:

UMTS Terrestrial Radio Access Network (UTRAN) (*Figs. 1, 3, 5, col. 7, lines 39-51*) sends a service announcement message that includes the parameters of the service types and service areas of Multimedia Broadcast/Multicast Service (MBMS) via cell broadcast (*Figs. 1, 3, 5, the logical channel 120*);

UMTS Terrestrial Radio Access Network (UTRAN) and the apparatuses in core network co-establish network resources for the Multimedia Broadcast/Multicast

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Service (MBMS) broadcast service (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*);

UMTS Terrestrial Radio Access Network (UTRAN) sends service notification information for the arrival of the Multimedia Broadcast/Multicast Service (MBMS) data via cell broadcast (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*);

UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia Broadcast/Multicast Service (MBMS) multicast service data (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*); and

UMTS Terrestrial Radio Access Network (UTRAN) and other apparatuses in the core network co-release network resources used for the Multimedia

Broadcast/Multicast Service (MBMS) broadcast service (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*).

38. As to claim 21, Sarkkinen discloses a method of receiving Multimedia Broadcast/Multicast Service (MBMS) broadcast service data in a communication system comprises the following steps:

UE (*Figs. 1, 3, 5, element 104*) receives service announcement information for the parameters of the service types and service areas of Multimedia

Broadcast/Multicast Service (MBMS) via cell broadcast (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*);

UE receives service notification information for the arrival of Multimedia

Broadcast/Multicast Service (MBMS) data via cell broadcast (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*);

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UE receives the Multimedia Broadcast/Multicast Service (MBMS) broadcast service data (*Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32*).

39. Further references of interest are cited on Form PTO-892, which is an attachment to this action.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai V. Nguyen whose telephone number is 571-272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hai V. Nguyen
Examiner
Art Unit 2618



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